



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0666

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / December 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 12/6/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0666-01	Sample ID: R 92353 Sample Type: Seawater	Time Collected: 12/5/2012 08:10	Sampling Point: Humboldt Bay	
K-40	EPA 901.1	324 +/- 17.7	62.7	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>12-6-12</u>	Lab No. (Leave Blank) <u>12-0666</u>
	Date & Time Sampled <u>12-5-12 09:10</u>	Serial Number R 92353
Collector Information Name: <u>Dae Anderson</u> Dept./Branch: <u>HBPP</u> Address: <u>PGE</u> Telephone No.: <u>707 444-0746</u>	Reporting Information Name: <u>Steve Hsu</u> Dept./Branch: <u>RHB</u> Address: Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDS <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M): _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

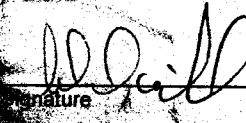
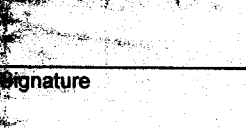
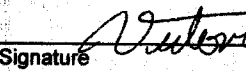
COMMENTS: (Cautions, etc.): 2612-9022

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: <u>HUO3</u> | <input type="checkbox"/> Iced/Frozen: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (SC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-90, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------------------|---------------------------|--|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ |  | Date <u>12-5-12</u> |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released <u>1300</u> |
| 2. | Date _____ | Name (Print) _____ |  | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date <u>12-6-12</u> | Name (Print) <u>UA</u> |  | Date _____ |
| | Time Custody Received <u>7:30</u> | Organization <u>DWRLB</u> | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: <u>≤ 0.01 MR/HR</u> | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0667

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / December 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 12/6/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0667-01	Sample ID: R 92347	Time Collected: 12/5/2012 08:10	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
Tritium	EPA 906.0	-87.6 +/- 142	248	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>12-6-12</u>	Lab No. (Leave Blank) <u>12-0667</u>
	Date & Time Sampled <u>12-5-12 08:10</u>	Serial Number <u>R 92347</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP</u> Address: <u>PG&E</u> Telephone No.: <u>707 444-6746</u>	Reporting Information Name: <u>Steve Asu</u> Dept./Branch: <u>RHB</u> Address: <u>RHB</u> Telephone No.: _____	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.: _____	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time _____ | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

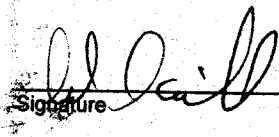
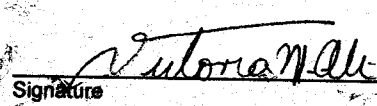
COMMENTS: (Cautions, etc.): 2012-0927

- | | | |
|--|---|--------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: _____ | Cold/Frozen: _____ | Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------------------|---------------------------|--|-----------------------------|
| 1. | Date _____ | Name (Print) _____ |  | Date <u>12-5-12</u> |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date <u>12-6-12</u> | Name (Print) <u>JA</u> |  | Date _____ |
| | Time Custody Received <u>2:30</u> | Organization <u>DWRLB</u> | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

- | | | | |
|--|--|--|---|
| <input checked="" type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |

B. Preservatives/Carriers:

- | | | | |
|--|--|------------------------------------|---|
| <input checked="" type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|--|--|------------------------------------|---|



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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0597

Collector:	Dee Anderson	RHB	Requestor:	Roger Lupo	RHB
	HBPP 1000 King Salmon			CDPH - RHB, 1500 Capitol Av., MS 7610	
	Eureka	CA 95503		Sacramento	CA 95814-5006
	Phone Number:	707 4440746		Phone Number:	916-440-7955
Site/Project Name: Humboldt Bay NPP / November 2012					
System No:	Billing Agency: RHB		Samples Received by Lab: 11/8/2012		

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0597-01	Sample ID: R 92276	Time Collected: 11/7/2012 08:35	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
Tritium	EPA 906.0	-29.2 +/- 144	248	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 11-8-12	Lab No. (Leave Blank) 12-0597
	Date & Time Sampled 11-7-12 0835	Serial Number R 92276
Collector Information Name: Dee Anderson Dept./Branch: HBPP PSE Address: Telephone No.: 707-444-0746	Reporting Information Name: Steve HSC Dept./Branch: RHB Address: Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): Effluent Canal System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters Date/Time ☒ Seawater ☐ Sludge (Semi-solid Samples)
 Finishing: _____
 Starting: _____
 Net (M³) _____
☐ Air Charcoal Cartridge
- ☐ Milk ☐ Soil/Sediment
☐ Wipes ☐ Biota (Type): _____
☐ Radon Canister ☐ Other: _____


COMMENTS: (Cautions, etc.): 2012-8337

- ☐ Field Treatment: Preservatives added: _____ Iced/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)
☐ Total Radium ☒ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------------|---------------------|--|-----------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature  | Date 11-7-12 |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released 0930 |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date 11-8-12 | Name (Print) UA | Signature _____ | Date _____ |
| | Time Custody Received 10:30 | Organization DWR RB | Signature _____ | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

- ☒ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

B. Preservatives/Carriers:

- ☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable

≤ 0.01 MR/HR



State of California - Health and Human Services Agency
California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0596

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / November 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 11/8/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0596-01	Sample ID: R 92275	Time Collected: 11/7/2012 08:35	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
K-40	EPA 901.1	325 +/- 21.0	80.4	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>11-9-12</u>	Lab No. (Leave Blank) <u>12-0596</u>
	Date & Time Sampled <u>11-7-12 0835</u>	Serial Number <u>R 92275</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP PG+R</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>Steve HSU</u> Dept./Branch: <u>RHB</u> Address: Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time _____ | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

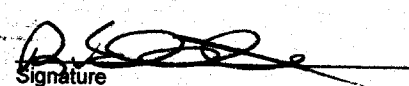
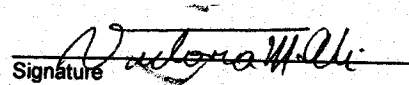
COMMENTS: (Cautions, etc.):

- 2012-8337
- ☐ Field Treatment: Preservatives added: HNO₃ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|---------------------------|--|---------------------|
| 1. | Date _____ | Name (Print) _____ |  | Date <u>11-7-12</u> |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 3. | Date <u>11-8-12</u> | Name (Print) <u>UA</u> |  | Date _____ |
| | Time Custody Received <u>10:30</u> | Organization <u>DWRLB</u> | | Signature _____ |

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |

B. Preservatives/Carriers:

- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0515

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / October 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/11/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0515-01	Sample ID: R 92272	Time Collected: 10/10/2012 10:40	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
K-40	EPA 901.1	339 +/- 17.9	62.3	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>10-11-12</u>	Lab No. (Leave Blank) <u>12-0515</u>
	Date & Time Sampled <u>10-10-12 1040</u>	Serial Number <u>R 92272</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP</u> Address: <u>PGT#</u>	Reporting Information Name: <u>Steve HSU</u> Dept./Branch: <u>RHB</u> Address: <u>RHB</u>	
Telephone No.: <u>707-444-0746</u>	Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u>	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	
System No.:		

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input checked="" type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input checked="" type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input checked="" type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

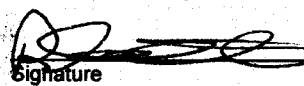
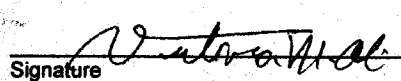
COMMENTS: (Cautions, etc.):

- 2012-7531
- ☒ Field Treatment: Preservatives added: HNO₃ ☐ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input checked="" type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (SC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|---------------------------|--|----------------------|
| 1. | Date _____ | Name (Print) _____ |  | Date <u>10-10-12</u> |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 3. | Date <u>10-11-12</u> | Name (Print) <u>UA</u> |  | Date _____ |
| | Time Custody Received <u>10130</u> | Organization <u>DWP/B</u> | | Signature _____ |

LABORATORY REMARKS (Leave Blank)

- ≤ 0.01 UR/HR
- A. Condition at Time of Receipt:
- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0516

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / October 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/11/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0516-01	Sample ID: R 92261	Time Collected: 10/10/2012 10:40	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
Tritium	EPA 906.0	-182 +/- 148	261	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch
 850 Marina Bay Parkway, G164
 Richmond, CA 94804
 510-620-2911

Date Received

10-11-12

Lab No. (Leave Blank)

12-0516

Date & Time Sampled

10-10-12 1040

Serial Number

R 92261

Collector Information

Name: Dee Anderson
 Dept./Branch: HBDO
 Address: PGIE

Telephone No.: 707-444-0746

Reporting Information

Name: Steve HSU
 Dept./Branch: RHB

Telephone No.:

Sample Information

System Name / Facility: HBDO
 Sampling Point (s): Effluent Canal

System No.:

Billing Agency

☐ DWFOB () ☒ RHB ☐ RWQCB () ☐ DTSC
☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG
☐ EMB ☐ Other (Specify) _____

TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

☐ Air Filters

Date/Time

Finishing: _____

Starting: _____

Net (M³) _____☐ Air Charcoal Cartridge☒ Seawater☐ Milk☐ Wipes☐ Radon Canister☐ Sludge (Semi-solid Samples)☐ Soil/Sediment☐ Biota (Type): _____☐ Other: _____

COMMENTS: (Cautions, etc.): 2012-7531

☐ Field Treatment: Preservatives added: _____
☐ Field Measurement: _____ mR/hr
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)
☐ Total Radium ☒ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

1.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released
2.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released
3.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

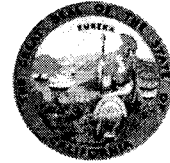
B. Preservatives/Carriers:

☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable

≤ 0.01 MR/HR



State of California - Health and Human Services Agency
California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0441

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / September 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 9/10/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0441-01	Sample ID: R 92152	Time Collected: 9/5/2012 09:05	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
K-40	EPA 901.1	287 +/- 22.6	88.7	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 9-10-12	Lab No. (Leave Blank) 12-0441
	Date & Time Sampled 9.5.12/0905	Serial Number R 92152
Collector Information Name: DEE ANDERSON Dept./Branch: HBPP Address: PG&E Telephone No.: (707) 444-0748	Reporting Information Name: STEVE HSU Dept./Branch: RHB Address: 208 Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): EFFLUENT CANAL System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters
Finishing: _____
Starting: _____
Net (M ³) _____ | Date/Time _____ | <input checked="" type="checkbox"/> Seawater
<input type="checkbox"/> Milk
<input type="checkbox"/> Wipes
<input type="checkbox"/> Radon Canister | <input type="checkbox"/> Sludge (Semi-Solids) Samples
<input type="checkbox"/> Soil/Sediment
<input type="checkbox"/> Biota (Type: _____)
<input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-6441

- | | | | |
|--|---|--|---------------------------------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: HNO ₃ | <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Field/Frozen: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Radionuclide(s), if known: _____ | | | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------------|---------------------|-----------------|-----------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature _____ | Date 9-5-12 |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released 0930 |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date 9-10-12 | Name (Print) UA | Signature _____ | Date _____ |
| | Time Custody Received 11:30 | Organization DWR/LB | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



State of California - Health and Human Services Agency
California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0442

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / September 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 9/10/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0442-01	Sample ID: R 92144	Time Collected: 9/5/2012	09:05	Sampling Point: Effluent Canal
	Sample Type: Seawater			
Tritium	EPA 906.0	-145 +/- 149	261	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911		Date Received <u>9/10/92</u>	Lab No. (Leave Blank) <u>12-0442</u>
		Date & Time Sampled <u>9.12/0905</u>	Serial Number <u>R 92144</u>
Collector Information Name: <u>DEE ANDERSON</u> Dept./Branch: <u>HBPP</u> Address: <u>P63E</u> Telephone No.: <u>(707) 444-0746</u>		Reporting Information Name: Dept./Branch: <u>STEVE HSU</u> Address: <u>RH13</u> Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>EFFLUENT CANAL</u> System No.:		Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|---|
| <input checked="" type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input checked="" type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: | | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: | | <input type="checkbox"/> Wipes | <input checked="" type="checkbox"/> Biota (Type): _____ |
| Net (M ³) | | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.):

- 2012-6441
- ☐ Field Treatment: Preservatives added: _____ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------|--------------|-----------|-----------------------|
| 1. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 2. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 3. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



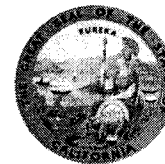
State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0316

Collector:	Dee Anderson	RHB	Requestor:	Roger Lupo	RHB
	HBPP 1000 King Salmon			CDPH - RHB, 1500 Capitol Av., MS 7610	
	Eureka	CA 95503		Sacramento	CA 95814-5006
	Phone Number:	707 4440746		Phone Number:	916-440-7955
Site/Project Name: Humboldt Bay NPP / August 2012					
System No:	Billing Agency: RHB		Samples Received by Lab: 8/2/2012		

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0316-01	Sample ID: R 92054	Time Collected: 8/1/2012	08:30	Sampling Point: Effluent Canal
	Sample Type: Seawater			
K-40	EPA 901.1	347 +/- 17.8	60.6	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>8-2-12</u>	Lab No. (Leave Blank) <u>12-0316</u>
	Date & Time Sampled <u>8-1-12 0830</u>	Serial Number <u>R 92054</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP P&E</u> Address:	Reporting Information Name: <u>Steve HSY</u> Dept./Branch: <u>RHB</u> Address:	
Telephone No.: <u>707-444-0746</u>	Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time _____ | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.):

- 2012-5600
- ☐ Field Treatment: Preservatives added: HNO₃ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (SC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|---------------------------|------------------------------|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature <u>[Signature]</u> | Date <u>8-1-12</u> |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released <u>0930</u> |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date <u>8-2-12</u> | Name (Print) <u>VA</u> | Signature <u>[Signature]</u> | Date _____ |
| | Time Custody Received <u>11:30</u> | Organization <u>DWR/B</u> | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- ≤ 0.01 uR/hr
- A. Condition at Time of Receipt:
- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



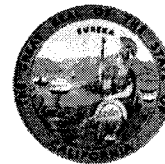
State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0317

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / August 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 8/2/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0317-01	Sample ID: R 92056	Time Collected: 8/1/2012	08:30	Sampling Point: Effluent Canal
	Sample Type: Seawater			
Tritium	EPA 906.0	-31.4 +/- 152.3	262.0	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>8-2-12</u>	Lab No. (Leave Blank) <u>12-0316</u>
	Date & Time Sampled <u>8-1-12 0830</u>	Serial Number <u>R 92056</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP AGTE</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>Steve Hsu</u> Dept./Branch: <u>RHB</u> Address: Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input checked="" type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-5600

- ☐ Field Treatment: Preservatives added: _____ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (ESC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------|--------------|-----------|-----------------------|
| 1. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 2. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 3. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt: 5.01 MR/hr
- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0259

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / July 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 7/12/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0259-01	Sample ID: R 92129 Sample Type: Seawater	Time Collected: 7/11/2012 10:30	Sampling Point: Effluent Canal	
K-40	EPA 901.1	333 +/- 17.3	59.3	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>7/12/12</u>	Lab No. (Leave Blank) <u>12-0259</u>
	Date & Time Sampled <u>7-11-12 / 10:30</u>	Serial Number <u>R 92129</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP / PG:E</u> Address: <u>HBPP / PG:E</u> Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>Steve Hsu</u> Dept./Branch: <u>RHB</u> Address: <u>RHB</u> Telephone No.: <u></u>	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.: <u></u>	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) <u></u>	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: <u></u> | <u></u> | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: <u></u> | <u></u> | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): <u></u> |
| Net (M ³) <u></u> | <u></u> | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: <u></u> |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-5174

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> Field Treatment: Preservatives added: <u>HNO₃</u> | <input type="checkbox"/> Field Measurement: <u></u> mR/hr | <input type="checkbox"/> Field/Frozen: <u></u> | <input type="checkbox"/> Other: <u></u> |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | | |
| <input type="checkbox"/> Radionuclide(s), if known: <u></u> | | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): <u></u> | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | |
|------------------------------------|---------------------------|------------------------------|------------------------------------|
| 1. Date <u>7-11-12</u> | Name (Print) <u></u> | Signature <u>[Signature]</u> | Date <u>7-11-12</u> |
| Time Custody Received <u></u> | Organization <u></u> | Signature <u></u> | Time Custody Released <u>13:30</u> |
| 2. Date <u></u> | Name (Print) <u></u> | Signature <u></u> | Date <u></u> |
| Time Custody Received <u></u> | Organization <u></u> | Signature <u></u> | Time Custody Released <u></u> |
| 3. Date <u>7-12-12</u> | Name (Print) <u>UA</u> | Signature <u>[Signature]</u> | Date <u></u> |
| Time Custody Received <u>13:35</u> | Organization <u>DWRLB</u> | Signature <u>[Signature]</u> | Time Custody Released <u></u> |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| <u>≤ 0.01 MR/HR</u> | | | |
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



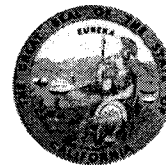
State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0260

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / July 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 7/12/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0260-01	Sample ID: R 92136	Time Collected: 7/11/2012 10:30	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
Tritium	EPA 906.0	37.3 +/- 154	262.0	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 7/12/12	Lab No. (Leave Blank) 12-0260
	Date & Time Sampled 7-11-12 / 10:30	Serial Number R 92136
Collector Information Name: Dee Anderson Dept./Branch: HBPP/PG:E Address: HBPP/PG:E Telephone No.: 707-444-0746	Reporting Information Name: Steve Hsu Dept./Branch: RHB Address: RHB Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): Effluent Canal System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-5174

- | | | |
|--|---|--------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: _____ | Ice/Frozen: _____ | Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (ESC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------------|--------------------|-----------------|--------------|
| 1. | Date _____ | Name (Print) _____ | Signature _____ | Date 7-11-12 |
| | Time Custody Received _____ | Organization _____ | Signature _____ | Date 13:30 |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | Signature _____ | Date _____ |
| 3. | Date 7-12-12 | Name (Print) VU | Signature _____ | Date _____ |
| | Time Custody Received 13:35 | Organization DWRLB | Signature _____ | Date _____ |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0199

Collector:	Dee Anderson	RHB	Requestor:	Roger Lupo	RHB
	HBPP 1000 King Salmon			CDPH - RHB, 1500 Capitol Av., MS 7610	
	Eureka	CA 95503		Sacramento	CA 95814-5006
	Phone Number:	707 4440746		Phone Number:	916-440-7955
Site/Project Name: Humboldt Bay NPP / June 2012					
System No:		Billing Agency: RHB	Samples Received by Lab: 6/14/2012		

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0199-01	Sample ID: R 92013	Time Collected: 6/13/2012 08:25	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
K-40	EPA 901.1	364 +/- 18.1	61.3	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 6/14/12	Lab No. (Leave Blank) 12-0199
	Date & Time Sampled 6-13-12 / 0825	Serial Number R 92013
Collector Information Name: Dee Anderson Dept./Branch: HBPP / PG&E Address: Telephone No.: (707) 444-0746	Reporting Information Name: STEVE HSU Dept./Branch: RHB Address: Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): Effluent Canal System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-4404

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: _____ | <input type="checkbox"/> Iced/Frozen: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (ESC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|-----------------------|--------------|-----------|-----------------------|
| 1. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 2. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |
| 3. | Date | Name (Print) | Signature | Date |
| | Time Custody Received | Organization | | Time Custody Released |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0200

Collector:	Dee Anderson	RHB	Requestor:	Roger Lupo	RHB
	HBPP 1000 King Salmon			CDPH - RHB, 1500 Capitol Av., MS 7610	
	Eureka	CA 95503		Sacramento	CA 95814-5006
	Phone Number:	707 4440746		Phone Number:	916-440-7955
Site/Project Name: Humboldt Bay NPP / June 2012					
System No:		Billing Agency: RHB	Samples Received by Lab: 6/14/2012		

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0200-01	Sample ID: R 92005	Time Collected: 6/13/2012 08:25	Sampling Point: Effluent Canal	
	Sample Type: Seawater			
Tritium	EPA 906.0	-97.6 +/- 154	267	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 6/14/12	Lab No. (Leave Blank) 12-200
	Date & Time Sampled 6-13-12/0825	Serial Number R 92005
Collector Information Name: Dee Anderson Dept./Branch: HBPP PG&E Address: Telephone No.: (707) 444-0746	Reporting Information Name: STEVE HSU Dept./Branch: RHB Address: Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): Effluent Canal System No.: 707-444-0746 REC-12-16	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.):

- 2012-4404
- ☐ Field Treatment: Preservatives added: _____ Ice/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): 6/14/12 | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

1.	Date 6/14/12	Name (Print) Dee Anderson	Date 6-13-12
	Time Custody Received 6/14/12	Organization HBPP PG&E	Time Custody Released 6/13/12
2.	Date 6/14/12	Name (Print) Liang Yang	Date 6/13/12
	Time Custody Received 6/14/12	Organization HBPP PG&E	Time Custody Released 6/13/12
3.	Date 6/14/12	Name (Print) Liang Yang	Date 6/13/12
	Time Custody Received 6/14/12	Organization HBPP PG&E	Time Custody Released 6/13/12

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:
- | | | | |
|--|--|--|---|
| <input checked="" type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0096

Collector: Dee Anderson	RHB	Requestor: Steve Hsu	RHB
HBPP 1000 King Salmon		1500 Capitol Avenue, MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7940	
Site/Project Name: HBNPP / May 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 5/3/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0096-01	Sample ID: R 91956	Time Collected: 5/2/2012	07:50	Sampling Point: Canal Effluent
	Sample Type: Seawater			
K-40	EPA 901.1	346 +/- 17.7	60.1	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>12-0091 5-312</u>	Lab No. (Leave Blank) <u>12-0096</u>
	Date & Time Sampled <u>5-2-12 10750</u>	Serial Number <u>R 91956</u>
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP</u> Address: <u>PG: E</u> Telephone No.: <u>707 444-0746</u>	Reporting Information Name: <u>Steve Hsu</u> Dept./Branch: <u>RHB</u> Address: _____ Telephone No.: _____	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent canal</u> System No.: _____	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time _____ | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

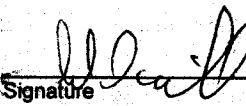
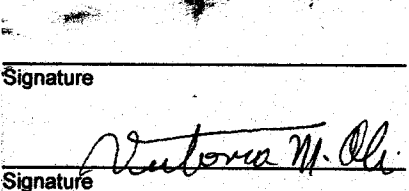
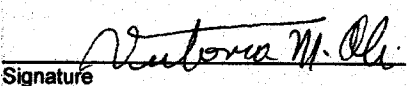
COMMENTS: (Cautions, etc.): 202-3116

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: <u>HNO₃</u> | <input type="checkbox"/> Iced/Frozen: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|-----------------------------|--|--------------------|
| 1. | Date _____ | Name (Print) _____ |  | Date <u>5-2-12</u> |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 2. | Date _____ | Name (Print) _____ |  | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Signature _____ |
| 3. | Date <u>5-3-12</u> | Name (Print) <u>VA</u> |  | Date _____ |
| | Time Custody Received <u>11:00</u> | Organization <u>DWR LRB</u> | | Signature _____ |

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
- ≤ 0.01 MR/HR



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0097

Collector: Dee Anderson	RHB	Requestor: Roger Lupo	RHB
HBPP 1000 King Salmon		CDPH - RHB, 1500 Capitol Av., MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7955	
Site/Project Name: Humboldt Bay NPP / May 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 5/3/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0097-01	Sample ID: R 91949	Time Collected: 5/2/2012	07:50	Sampling Point: Canal Effluent
	Sample Type: Seawater			
Tritium	EPA 906.0	-29.2 +/- 155	267	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 5-3-12	Lab No. (Leave Blank) 12-0097
	Date & Time Sampled 5-2-12 / 10750	Serial Number R 91949
Collector Information Name: Dee Anderson Dept./Branch: HBPP Address: PG:6 Telephone No.: 707 444-0746	Reporting Information Name: Steve Hsu Dept./Branch: RHB Address: Telephone No.:	
Sample Information System Name / Facility: HBPP Sampling Point (s): Effluent Canal System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point/Of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-3116

- | | | |
|--|---|---------------------------------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: _____ | <input type="checkbox"/> Iced/Frozen: _____ | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | |
|-----------------------------|---------------------|-----------------|-----------------------------|
| 1. Date _____ | Name (Print) _____ | Signature _____ | Date 5-2-12 |
| Time Custody Received _____ | Organization _____ | Signature _____ | Time Custody Released 10:00 |
| 2. Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| Time Custody Received _____ | Organization _____ | Signature _____ | Time Custody Released _____ |
| 3. Date 5-3-12 | Name (Print) VA | Signature _____ | Date _____ |
| Time Custody Received 11:00 | Organization DU RLB | Signature _____ | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- ≤ 0.01 MR/HR
- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| <input type="checkbox"/> Holding Time Exceeded | | | |
| B. Preservatives/Carriers: | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable | |
| <input type="checkbox"/> Added While Sampling | | | |
| <input type="checkbox"/> Added in Laboratory | | | |



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0012

Investigator: Dee Anderson	RHB	Requestor: Steve Hsu	RHB
HBPP 1000 King Salmon		1500 Capitol Avenue, MS 7610	
Eureka CA 95503		Sacramento CA 95814-5006	
Phone Number: 707 4440746		Phone Number: 916-440-7940	
Site/Project Name: Humboldt Bay / April 2012			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/5/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0012-01	Sample ID: R 91941	Time Collected: 4/4/2012	08:30	Sampling Point: Effluent Canal
	Sample Type: Seawater			
K-40	EPA 901.1	254 +/- 19.2	75.5	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch

850 Marina Bay Parkway, G164
Richmond, CA 94804
510-620-2911

Date Received

4-5-12

Lab No. (Leave Blank)

12-0012

Date & Time Sampled

4-4-12 4:30

Serial Number

R 91941

Collector Information

Name: Dee Anderson
Dept./Branch: HBPP
Address: (PG&E) 1000 King Salmon
Eureka, CA 95503
Telephone No.: 707-444-0746

Reporting Information

Name: STEVE HSU
Dept./Branch: RHB
Address:
Telephone No.:

Sample Information

System Name / Facility: HBPP
Sampling Point (s): Effluent Canal

System No.:

Billing Agency

☐ DWFOB () ☒ RHB ☐ RWQCB () ☐ DTSC
☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG
☐ EMB ☐ Other (Specify) _____

TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

☐ Air Filters

Date/Time

☒ Seawater☐ Sludge (Semi-solid Samples)

Finishing: _____

☐ Milk☐ Soil/Sediment

Starting: _____

☐ Wipes☐ Biota (Type): _____Net (M³) _____☐ Radon Canister☐ Other: _____☐ Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

2012-2259

☐ Field Treatment: Preservatives added: HNO₃ Iced/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha ☐ Gross Beta ☒ Gamma Scan
☐ Total Uranium ☐ Total Beta (ESC) ☐ NORM (Gamma)
☐ Total Radium ☐ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radium-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date 4-4-12
	Time Custody Received _____	Organization _____		Time Custody Released 1030
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:

☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

B. Preservatives/Carriers:

☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable



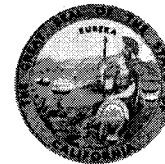
State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0013

Collector:	Dee Anderson	RHB	Requestor:	Steve Hsu	RHB
	HBPP 1000 King Salmon			1500 Capitol Avenue, MS 7610	
	Eureka	CA 95503		Sacramento	CA 95814-5006
	Phone Number:	707 4440746		Phone Number:	916-440-7940
Site/Project Name: Humboldt Bay NPP / April 2012					
System No:		Billing Agency: RHB		Samples Received by Lab: 4/5/2012	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0013-01	Sample ID: R 91927	Time Collected: 4/4/2012	08:30	Sampling Point: Effluent Canal
	Sample Type: Seawater			
Tritium	EPA 906.0	-278.0 +/- 159.0	284.0	pCi/L

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4-5-12	Lab No. (Leave Blank) 12-0013
	Date & Time Sampled 4-4-12 / 0830	Serial Number R 91927
Collector Information Name: Dee Anderson Dept./Branch: HB PP Address: 1000 King Salmon Eureka, CA 95503 Telephone No.: 707-444-0746	Reporting Information Name: Steve Hsu Dept./Branch: RHB Address: Telephone No.:	
Sample Information System Name / Facility: HB PP Sampling Point (s): Effluent Canal System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input checked="" type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input checked="" type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): **2012-2259**

- | | | |
|--|---|--------------|
| <input type="checkbox"/> Field Treatment: Preservatives added: _____ | <input type="checkbox"/> Cooled/Frozen: _____ | Other: _____ |
| <input type="checkbox"/> Field Measurement: _____ mR/hr | <input type="checkbox"/> Radionuclide(s), if known: _____ | |
| <input type="checkbox"/> Rush/Priority (should be prearranged and have supervisory approval) | | |

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (ESC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date 4-4-12
	Time Custody Received _____	Organization _____		Time Custody Released 1030
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date 4-5-12	Name (Print) JA	Signature Victoria M. Ali	Date _____
	Time Custody Received 10:30	Organization DWR/CB		Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

- | | | | |
|--|--|--|---|
| A. Condition at Time of Receipt: | | | |
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
| B. Preservatives/Carriers: | | | |
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
- ≤ 0.01 MR/HR**



RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0179

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/15/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 03/07/2012 08:05 Date/Time Received: 03/08/2012 13:40

Site Name: Humboldt Bay NPP

Source Name: HBNPP / March 2012

R Number: R 92789

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0179-001	Canal Effluent	EPA 901.1	K-40	290 ± 20.1	78.2	pCi/L

1. Precision criteria for these methods were determined to be acceptable.

2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 3-8-12	Lab No. (Leave Blank) N12-0179
	Date & Time Sampled 3-7-12 0805	Serial Number R 92789
Collector Information Name: DEE ANDERSON Dept./Branch: H3PP Address: IGSE Telephone No.: 707-444 2640	Reporting Information Name: STEVE HSU Dept./Branch: RHB Address: RHB Telephone No.: _____	
Sample Information System Name / Facility: H3PP Sampling Point (s): EFFLUENT CANAL System No.: _____	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time _____ | <input checked="" type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.):

- 2012-1491**
- ☒ Field Treatment: Preservatives added: **HNO3** ☐ Iced/Frozen: _____ Other: _____
- ☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|--|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input checked="" type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|---------------------------|---------------------------------|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature _____ | Date 3-7-12 |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released 0920 |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date 3-8-12 | Name (Print) UA | Signature Victoria M. De | Date _____ |
| | Time Custody Received 13:40 | Organization DWRLB | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- 0.01 MR/HR**
- A. Condition at Time of Receipt:
- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0180

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 03/07/2012 08:05 Date/Time Received: 03/08/2012 13:40

Site Name: Humboldt Bay NPP

Source Name: HBNPP / March 2012

R Number: R 92779

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0180-001	Canal Effluent	EPA 906.0	Tritium	-17.2 ± 144	248	pCi/L

1. Precision criteria for these methods were determined to be acceptable.

2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911		Date Received <u>3-8-12</u>	Lab No. (Leave Blank) <u>N12-0180</u>
		Date & Time Sampled <u>3-7-12 0805</u>	Serial Number <u>R 92779</u>
Collector Information Name: <u>DUE ADARSON</u> Dept./Branch: <u>HBP P</u> Address: <u>PGLE</u> Telephone No.: <u>707-444-2640</u>		Reporting Information Name: <u>STEVE HSU</u> Dept./Branch: <u>RHB</u> Address: <u>RHB</u> Telephone No.: <u></u>	
Sample Information System Name / Facility: <u>HBP P</u> Sampling Point (s): <u>EFFLUENT CANAL</u> System No.: <u></u>		Billing Agency <input type="checkbox"/> DWFOB () <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters Date/Time _____
 Finishing: _____
 Starting: _____
 Net (M³) _____
☐ Air Charcoal Cartridge
- ☒ Seawater ☐ Sludge (Semi-solid Samples)
☐ Milk ☐ Soil/Sediment
☐ Wipes ☐ Biota (Type): _____
☐ Radon Canister ☐ Other: _____

COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: NONE Red/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)
☐ Total Radium ☒ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

- | | | | | | |
|----|------------------------------------|---------------------------|---------------------------------|--------------------|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature _____ | Date <u>3-7-12</u> | Time Custody Released <u>0920</u> |
| 2. | Time Custody Received _____ | Organization _____ | Signature _____ | Date _____ | Time Custody Released _____ |
| 3. | Date <u>3-8-12</u> | Name (Print) <u>VH</u> | Signature _____ | Date _____ | Time Custody Released _____ |
| | Time Custody Received <u>13:40</u> | Organization <u>DWRLB</u> | Signature <u>Victoria M. Ab</u> | Date _____ | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample
- B. Preservatives/Carriers:**
☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable
- 0.01 M R / HR



RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0085

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/23/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 02/01/2012 07:40 Date/Time Received: 02/02/2012 10:30

Site Name: Humboldt Bay NPP

Source Name: HBNPP / February 2012

R Number: R 92720

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0085-001	Canal Effluent	EPA 901.1	K-40	314 ± 20.4	77.8	pCi/L

1. Precision criteria for these methods were determined to be acceptable.
2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>2-2-12</u>	Lab No. (Leave Blank) <u>N12-0085</u>
	Date & Time Sampled <u>2-1-12 0740</u>	Serial Number <u>R 92720</u>
Collector Information Name: <u>DEE ANDERSON</u> Dept./Branch: <u>HBPP PG&E</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>STEVE ASU</u> Dept./Branch: Address: <u>RH3</u> Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>EFFLUENT CANAL</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters ☐ Date/Time ☒ Seawater ☐ Sludge (Semi-solid Samples)
 Finishing: _____ ☐ Milk ☐ Soil/Sediment
 Starting: HBPP / Effluent ☐ Wipes ☐ Biota (Type): _____
 Net (M³) _____ ☐ Radon Canister ☐ Other: _____
☐ Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

- 2012-0710
☒ Field Treatment: Preservatives added: HNO3 Iced/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha ☐ Gross Beta ☒ Gamma Scan
☐ Total Uranium ☐ Total Beta (LS) ☐ NORM (Gamma)
☐ Total Radium ☐ Tritium (³H) ☒ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|----------------------------|--------------------------------|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ | Signature <u>[Signature]</u> | Date <u>2-1-12</u> |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released <u>0900</u> |
| 2. | Date _____ | Name (Print) _____ | Signature _____ | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date <u>2-2-12</u> | Name (Print) <u>UA</u> | Signature <u>Tutoria M. Ob</u> | Date _____ |
| | Time Custody Received <u>10:30</u> | Organization <u>DWR RB</u> | Signature _____ | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample
- B. Preservatives/Carriers:**
☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable

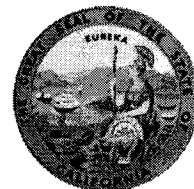


RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0086

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/09/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 02/01/2012 07:40 Date/Time Received: 02/02/2012 10:30

Site Name: Humboldt Bay NPP

Source Name: HBNPP / February 2012

R Number: R 92726

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0086-001	Canal Effluent	EPA 906.0	Tritium	-5.93 ± 153	264	pCi/L

1. Precision criteria for these methods were determined to be acceptable.
2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>2-2-12</u>	Lab No. (Leave Blank) <u>N12-0086</u>
	Date & Time Sampled <u>2-1-12 0740</u>	Serial Number <u>R 92726</u>
Collector Information Name: <u>DEE ANDERSON</u> Dept./Branch: <u>HBPP PG&E</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: Dept./Branch: <u>STEVE HSU</u> Address: <u>RHB</u> Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>EFFLUENT CANAL</u> System No.:	Billing Agency <input checked="" type="checkbox"/> DWFOB () <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

- ☐ Air Filters ☐ Seawater ☐ Sludge (Semi-solid Samples)
Finishing: 2-1-12 0740 ☐ Milk ☐ Soil/Sediment
Starting: 2-1-12 0740 ☐ Wipes ☐ Biota (Type): N12-008
Net (M³) 2-2-12 ☐ Other: R 927
☐ Air Charcoal Cartridge ☐ Radon Canister

COMMENTS: (Cautions, etc.):

- 2012-0740
☐ Field Treatment: Preservatives added: _____ Iced/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan
☐ Total Uranium ☐ Total Beta (LS) ☐ NORM (Gamma)
☐ Total Radium ☒ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

- | | | | | | |
|----|---------------------------------------|-------------------------------------|---------------------------------|-----------------------|---------------------------------------|
| 1. | Date
<u>2-2-12</u> | Name (Print)
<u>DEE ANDERSON</u> | Signature
<u>[Signature]</u> | Date
<u>2/1/12</u> | Time Custody Released
<u>0900</u> |
| 2. | Time Custody Received
<u>10:30</u> | Organization
<u>VA</u> | Signature
<u>[Signature]</u> | Date
<u>2-2-12</u> | Time Custody Released
<u>10:30</u> |
| 3. | Date
<u>2-2-12</u> | Name (Print)
<u>DWRLB</u> | Signature
<u>[Signature]</u> | Date
<u>2-2-12</u> | Time Custody Released
<u>10:30</u> |

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample
- B. Preservatives/Carriers:
☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable



RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0014

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/19/2012

Requestor

Name: D. Anderson

Organization: Radiologic Health Branch

Address: PG and E

City:

State: CA

Zip Code:

Phone: 707-444-0851

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 01/04/2012 10:00 Date/Time Received: 01/06/2012 13:38

Site Name: Humboldt Bay NPP

Source Name: Humboldt Bay NPP / January 2012

R Number: R92601

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result \pm CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0014-001	Effluent Canal	EPA 901.1	K-40	293 \pm 19.8	76.5	pCi/L

1. Precision criteria for these methods were determined to be acceptable.

2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>1/06/12</u>	Lab No. (Leave Blank) <u>N12-0014-001</u>
	Date & Time Sampled <u>1-4-12 10:00</u>	Serial Number R 92601
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP DGE</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>Steve Hsu</u> Dept./Branch: <u>RHB</u> Address: Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters Date/Time ☒ Seawater ☐ Sludge (Semi-solid Samples)
 Finishing: _____ ☐ Milk ☐ Soil/Sediment
 Starting: _____ ☐ Wipes ☐ Biota (Type): _____
 Net (M³) _____ ☐ Radon Canister ☐ Other: _____
☐ Air Charcoal Cartridge

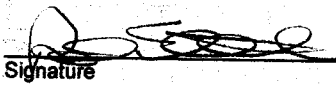
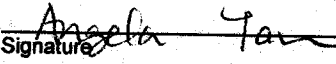
COMMENTS: (Cautions, etc.):

- 2012-0013
☒ Field Treatment: Preservatives added: HNO₃ Iced/Frozen: _____ Other: _____
☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____
☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha ☐ Gross Beta ☒ Gamma Scan
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)
☐ Total Radium ☐ Tritium (³H) ☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium
☐ Other (Specify): _____ ☐ Nickel-63 ☐ Iron-55

CHAIN OF CUSTODY

- | | | | | |
|----|------------------------------------|----------------------------|---|-----------------------------------|
| 1. | Date _____ | Name (Print) _____ | 
Signature | Date <u>1-4-12</u> |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released <u>1100</u> |
| 2. | Date _____ | Name (Print) _____ | _____
Signature | Date _____ |
| | Time Custody Received _____ | Organization _____ | | Time Custody Released _____ |
| 3. | Date <u>01/06/12</u> | Name (Print) <u>A. TAN</u> | 
Signature | Date _____ |
| | Time Custody Received <u>09:45</u> | Organization <u>DWRIB</u> | | Time Custody Released _____ |

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample
- B. Preservatives/Carriers:**
☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable
- 20.01 MR/hr.



RON CHAPMAN, MD, MPH
Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N12-0015

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/13/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: D. Anderson

Date/Time Collected: 01/04/2012 10:00 Date/Time Received: 01/06/2012 13:54

Site Name: Humboldt Bay NPP

Source Name: HBNPP / January 2012

R Number: R92589

Sample Type: Seawater

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N12-0015-001	Canal Effluent	EPA 906.0	Tritium	200 ± 169	282	pCi/L

1. Precision criteria for these methods were determined to be acceptable.

2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>11/06/12</u>	Lab No. (Leave Blank) <u>N12-0015-001</u>
	Date & Time Sampled <u>11-4-12 10:00</u>	Serial Number R 92589
Collector Information Name: <u>Dee Anderson</u> Dept./Branch: <u>HBPP AGE</u> Address: Telephone No.: <u>707-444-0746</u>	Reporting Information Name: <u>Steve HSU</u> Dept./Branch: <u>RHB</u> Address: Telephone No.:	
Sample Information System Name / Facility: <u>HBPP</u> Sampling Point (s): <u>Effluent Canal</u> System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Drinking Water | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Surface Water | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Raw | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU) |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | Date/Time | <input type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) |
| Finishing: _____ | _____ | <input type="checkbox"/> Milk | <input type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

COMMENTS: (Cautions, etc.): 2012-0013

☐ Field Treatment: Preservatives added: _____ Iced/Frozen: _____ Other: _____

☐ Field Measurement: _____ mR/hr ☐ Radionuclide(s), if known: _____

☐ Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- | | | |
|---|---|--|
| <input type="checkbox"/> Gross Alpha | <input type="checkbox"/> Gross Beta | <input type="checkbox"/> Gamma Scan |
| <input type="checkbox"/> Total Uranium | <input type="checkbox"/> Total Beta (LSC) | <input type="checkbox"/> NORM (Gamma) |
| <input type="checkbox"/> Total Radium | <input checked="" type="checkbox"/> Tritium (³ H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226 | <input type="checkbox"/> Carbon-14 | <input type="checkbox"/> Isotopic Plutonium |
| <input type="checkbox"/> Radium-228 | <input type="checkbox"/> Iodine-131 | <input type="checkbox"/> Isotopic Thorium |
| <input type="checkbox"/> Radon-222 | <input type="checkbox"/> Strontium-89, 90 | <input type="checkbox"/> Isotopic Uranium |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63 | <input type="checkbox"/> Iron-55 |

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date <u>11-4-12</u>
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>11/6/12</u>	Name (Print) <u>A. TAN</u>	Signature <u>Angela Tan</u>	Date <u>11/6/12</u>
	Time Custody Received <u>09:45</u>	Organization <u>DWRLB</u>	Signature _____	Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:
- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Acceptable | <input type="checkbox"/> Broken Container | <input type="checkbox"/> Leaked in Transit | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample | |
- B. Preservatives/Carriers:
- | | | | |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|
- 28.61 MR/hr